

We claim:

Sub A1
1. In a radio device operable in a radio communication system at least to receive a receive signal, the receive signal formed of a desired component transmitted to the radio device upon a desired receive band and at least potentially a non-desired component transmitted to the radio device upon
5 an other-than-desired receive band, an improvement of apparatus for facilitating recovery of the desired component of the receive signal, said apparatus comprising:

10 a non-desired component indicia detector coupled to receive indications of the receive signal, said non-desired component indicia detector for detecting an indicia of the non-desired component of the receive signal;

15 a receive signal sampler also coupled to receive indications of the receive signal and coupled to receive indications of the indicia of the non-desired component of the receive signal detected by said non-desired component indicia detector, said receive signal sampler for sampling the receive signal at sampling times responsive to the indicia detected by said non-desired component indicia detector, the receive signal once sampled, representative of the desired component of the receive signal.

2. The apparatus of claim 1 wherein the non-desired component of the receive signal exhibits a characteristic frequency, represented by a waveform having power-level zero-crossings, and wherein the indicia detected by said non-desired component indicia detector comprises indications of
5 occurrences of the zero-crossings of the non-desired component of the zero-crossings.

3. The apparatus of claim 2 wherein said non-desired component indicia detector comprises a zero-crossing detector, said zero-crossing

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detector for detecting times at which the non-desired component of the receive signal crosses a zero power level and for forming signal crossing indications responsive thereto.

4. The apparatus of claim 3 further comprising a filter element positioned in-line with said zero-crossing detector, said filter element for forming a filtered signal, the filtered signal forming the indications of the receive signal to which said zero-crossing detector is coupled to receive.

5. The apparatus of claim 4 further comprising a digitizer positioned in-line with said filter element and coupled to receive representations of the receive signal, said digitizer for digitizing the representations of the receive signal, digitized representations formed therefrom applied to said filter element.

6. The apparatus of claim 5 wherein the indications of the receive signal of which said receive signal sampler is coupled to receive comprise the digitized representations of the receive signal.

7. The apparatus of claim 6 further comprising a delay element positioned in-line between said digitizer and said receive signal sampler, said delay element for delaying application of the digitized representation of the receive signal to said receive signal sampler for a selected time period.

8. The apparatus of claim 7 wherein the selected time period during which said delay element delays the digitized representation of the receive signal substantially corresponds to a time period required by said filter element to form the filtered signal.

9. The apparatus of claim 5 further comprising a clock signal generator coupled to said digitizer, said clock signal generator for generating a clock signal of a clock rate responsive to which said digitizer digitizes the representation of the receive signal.

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10. The apparatus of claim 9 wherein the clock rate of the clock signal generated by said clock signal generator is greater than the characteristic frequency of the non-desired component of the receive signal.

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11. The apparatus of claim 1 wherein the desired component of the receive signal comprises a transmit signal intended to be transmitted to the radio device, wherein the non-desired component comprises an adjacent-channel identifying signal and wherein the receive signal, once sampled by said receive signal sampler, is formed of sampled portions of the transmit signal.

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12. The apparatus of claim 11 wherein the radio communication system comprises CDMA (Code-Division, Multiple-Access) cellular communication system, wherein the desired receive band comprises a CDMA receive band allocated to the CDMA cellular communication system for communication thereon of code-division multiplexed signals, and wherein the receive signal, once sampled by said receive signal sampler, is representative of a code-division multiplexed signal transmitted to the radio device.

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13. The apparatus of claim 12 wherein the radio device comprises a cellular mobile terminal having a transmit portion and a receive portion, and wherein said non-desired component indicia detector and said receive signal sampler comprise portions of the receive portion of the cellular mobile terminal.

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14. In a method for communicating by way of a radio device operable in a radio communication system at least to receive a receive signal, the receive signal formed of a desired component transmitted to the radio device upon a desired receive band and at least potentially a non-desired component transmitted to the radio device upon an other-than-desired receive band, an improvement of a method for facilitating recovery of the desired component of the receive signal, said method comprising:

detecting at the radio device an indicia of the non-desired component of the receive signal received at the radio device;

sampling the receive signal at sampling times responsive to the indicia detected during said operation of detecting; and

forming a sampled signal responsive to sampling performed during said operation of sampling, the sampled signal representative of the desired component of the receive signal.

15. The method of claim 14 wherein the indicia of the non-desired component of the receive signal comprises indications of occurrences of power-level zero-crossings of the non-desired component of the receive signal;

16. The method of claim 15 comprising the additional operation prior to said operation of detecting, of filtering representations of the receive signal received at the radio device, and wherein said operation of detecting is performed upon the representations of the receive signal subsequent to filtering thereof during said operation of filtering.

17. The method of claim 16 wherein the receive signal is sampled during said operation of sampling at times corresponding to occurrences of power-level zero crossings detected during said operation of detecting.

18. The method of claim 17 comprising the additional operation, prior to said operation of filtering, of digitizing the receive signal to form a digitized representation thereof.

19. The method of claim 18 wherein the receive signal digitized during said operation of digitizing is digitized at a rate at least as great as a characteristic frequency exhibited by the non-desired component of the receive signal.

20. Apparatus for a radio device operable in a radio communication system at least to receive a receive signal, the receive formed of a desired component transmitted to the radio device upon a desired receive band and at least potentially a non-desired component transmitted to the radio device upon an other-than-desired receive band, said apparatus comprising:

a non-desired component indicia detector coupled to receive indications of the receive signal, said non-desired component indicia detector for detecting an indicia of the non-desired component of the receive signal;

a receive signal sampler also coupled to receive indications of the receive signal and coupled to receive indications of the indicia of the non-desired component of the receive signal detected by said non-desired component indicia detector, said receive signal sampler for sampling the receive signal at sampling times responsive to the indicia detected by said non-desired component indicia detector, the receive signal once sampled, representative of the desired component of the receive signal.